

Remarks

Applicants respectfully request reconsideration of the present application in view of the above amendments and following remarks. Claims 8, 9, 10, 11 and 12 have been amended. No claims have been added or cancelled. Therefore, claims 8-13 are pending in the present application.

Claims 8, 9 and 11-13 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,750,279 to Carolan et al. ("the Carolan reference"). Applicants respectfully traverse this rejection in view of the above amendments.

Amended claim 8 is directed to, in a fuel cell assembly, a method for sealing surfaces between first and second components of a fuel cell stack in the fuel cell assembly. The method comprising: a) forming a dielectric element in the general shape of the surfaces to be sealed; b) positioning the dielectric element adjacent to the first and second components; c) forming a paste of a first braze alloy on at least one of the dielectric element and the first component; d) forming a paste of a second braze alloy on at least one of the dielectric element and the second component; e) bringing the dielectric element, the paste of the first braze alloy, the paste of the second braze alloy, and the first and second components together as an assembly, wherein the paste of the first braze alloy is disposed between and in contact with the first component and the dielectric element, and the paste of the second braze alloy is disposed between and in contact with the second component and the dielectric element ; and f) sintering the assembly at a temperature whereby the first and second braze alloys become liquefied and when cooled become bonded to the

dielectric element and the first and second components of the fuel stack assembly, respectively, to form the seal.

In general, as best seen in FIG. 8 of the Carolan reference, first and second electrodes (156, 158) are joined together using a pair of collars (140, 142) and an interconnect (130). In particular, one collar (140) is positioned between the first electrode (156) and the interconnect (130), and coupled to each of these elements using a glass sealant (166, 168). The other collar (142) is positioned between the second electrode (158) and the interconnect (130), and coupled to each of these elements using a glass sealant (164, 168). Furthermore, a first conductive material (170) is coupled to the first electrode (156) and the interconnect (130), and a second conductive material (172) is coupled to the second electrode (158) and the interconnect (130), to provide an electron pathway (174) from the first electrode (156), through the interconnect (130) and to the second electrode (158).

The Carolan reference does not teach or suggest a method for sealing surfaces between first and second components of a fuel cell stack including the step of providing an assembly, prior to a sintering step, wherein a paste of a first braze alloy is disposed between and in contact with the first component and a dielectric element, and a paste of a second braze alloy is disposed between and in contact with the second component and the dielectric element as recited in amended claim 8. While the Carolan reference may have two conductive materials (170, 172) that equate to the first and second braze alloys recited in claim 8, these conductive materials (170, 172) are not disposed between and in contact with the same dielectric element as recited in claim 8. Instead, the two conductive materials (170,

172) (i.e., first and second braze alloys) pointed out by the Examiner are coupled to two different collars (140, 142) (i.e., dielectric elements) that are separated by an interconnect (130). Therefore, all of the limitations included in claim 8 are not disclosed or otherwise suggested in the Carolan reference.

Moreover, as best seen in FIG. 8, the assembly set forth in the Carolan reference uses glass seals to connect the collars (140, 142) to the fuel cell electrodes (156, 158) and the interconnect (130). The present invention eliminates the need to use glass seals between the fuel cell components by using a first braze alloy disposed between and in contact with a first component and a single dielectric element, and a second braze alloy disposed between and in contact with a second component and the aforementioned dielectric component.

In view of the amendment to claim 1 and for the reasons set forth above, Applicants request that the rejection of claim 8 be withdrawn. As claims 9 and 11-13 depend from claim 8, these claims are also not taught or suggested by the Carolan reference for at least the same reasons set forth above with respect to claim 8. Applicants therefore request that the rejection of claims 9 and 11-13 be withdrawn.

Claim 10 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over the Carolan reference in view of the article "Fuel Cell Systems Explained, 2nd ed. by Larminie et al. ("the Larminie reference"). Applicants respectfully traverse this rejection.

As stated above with respect to claim 8, the Carolan reference does not teach or suggest a method for sealing surfaces between first and second components of a fuel cell stack including the step of providing an assembly, prior to a sintering step,

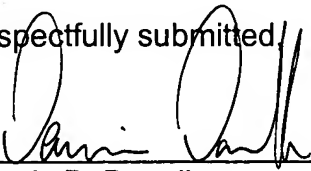
wherein a paste of a first braze alloy is disposed between and in contact with the first component and a dielectric element, and a paste of a second braze alloy is disposed between and in contact with the second component and the dielectric element. The Larminie reference also fails to teach or suggest the limitations that were lacking in the Carolan reference. As claim 10 depends from claim 8, claim 10 is not taught or suggested by the references of record for at least the same reasons set forth with respect to claim 8. Applicants respectfully request that the rejection of claim 10 be withdrawn.

Conclusion

In light of the foregoing, Applicants submit that claims 8-13 are in condition for allowance and such allowance is respectfully requested. Should the Examiner feel that any unresolved issues remain in this case, the undersigned may be contacted at the telephone number listed below to arrange for an issue resolving conference.

Applicants do not believe that any fee is due at this time. However, the Commissioner is hereby authorized to charge any fee that may have been overlooked, to Deposit Account No. 10-0223.

Dated: 10/5/06

Respectfully submitted,

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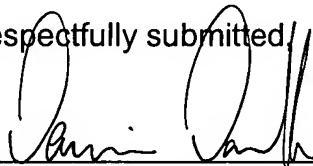
wherein a paste of a first braze alloy is disposed between and in contact with the first component and a dielectric element, and a paste of a second braze alloy is disposed between and in contact with the second component and the dielectric element. The Larminie reference also fails to teach or suggest the limitations that were lacking in the Carolan reference. As claim 10 depends from claim 8, claim 10 is not taught or suggested by the references of record for at least the same reasons set forth with respect to claim 8. Applicants respectfully request that the rejection of claim 10 be withdrawn.

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